

PROJECT 10073 RECORD CARD

1. DATE 16 July 1963	2. LOCATION 35.38N 176.23W (pacific)		12. CONCLUSIONS <input type="checkbox"/> Was Balloon <input type="checkbox"/> Probably Balloon <input type="checkbox"/> Possibly Balloon
3. DATE-TIME GROUP Local _____ GMT <u>17/0803Z</u>	4. TYPE OF OBSERVATION <input type="checkbox"/> Ground-Visual <input type="checkbox"/> Ground-Radar <input checked="" type="checkbox"/> Air-Visual <input type="checkbox"/> Air-Intercept Radar		<input type="checkbox"/> Was Aircraft <input type="checkbox"/> Probably Aircraft <input type="checkbox"/> Possibly Aircraft
5. PHOTOS <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. SOURCE military		<input type="checkbox"/> Was Astronomical <input type="checkbox"/> Probably Astronomical <input type="checkbox"/> Possibly Astronomical
7. LENGTH OF OBSERVATION 8 minutes	8. NUMBER OF OBJECTS one	9. COURSE SSE	<input checked="" type="checkbox"/> Other Satellite ECHO I <input type="checkbox"/> Insufficient Data for Evaluation <input type="checkbox"/> Unknown
10. BRIEF SUMMARY OF SIGHTING Bright light same as first mag star moving initially to west then to SE. Observed at 45 deg elevation. Faded at horizon after 8 min observation		11. COMMENTS On 17 July ECHO crossed the equator heading NE at 0724 at 345 deg W. at 0750 it would be at it's orbital peak 262 deg. It would reach 35 deg North Latitude at 0802Z at 145 deg East Longitude. This places the Satellite in the position of the object under observation. Case evaluated as ECHO I.	

16

17/0808Z

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

01

AF IN : 41373 (17 Jul 63) C/jmh Pg 1 of 2

O SMB A136

ZCZCHQA934ZCECB157

..... YY RUEAHQ

DE RUHPF B026

ZNR

Y 170913Z

FM COMBARPAC

TO RUHPH/C OMHAWSEAFRON

RUHLKM/C INCPACAF

RUUAUAAH/HADD KUNIA

ZEN/CINC NORAD

INFO RUECW/CNO

RUEAHQ/COFS USAF

RUHPA/C INCPAC

RUHPB/C INCPACFLT0

RUHAFS/C INCUSARPAC

RUHLMP/PACAFBASECOM HICKMAN

RUECW/SECNAV

NAVY GRNC

INFO : NIN-9, XOP-1, XOPX-4, SAF-OS-3,
ARMY-2, NAVY-2, CMC-8, JCS-35,
OSD-15, NSA-7, DIA-25, DIA/CIIC-3
(115)

0724
 26
 750
 345
 83
 262
 345
 130
 215
 180
 35
 1450
 345.29
 -130
 215
 180
 145035
 180
 16
 164 in
 196°

07.24 345.29
 -144-
 196°
 +44
 SE 20°N

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

AF IN : 41373 (17 Jul 63)

Page 2 of 2

BT

UNCLAS

A. JANAP 146D

1. CIRVIS REPORT

2. V43224

3. BRIGHT LIGHT SAME SIZE AS FIRST MAGNITUDE STAR

4. 35 38N 176 23W

5. 170808Z

6. ALTITUDE 45 DEG ABOVE HORIZON

7. SSE

8. OBJECT SIGHTED INITIAL TO THE WESX...RESERVED TRAVELING ON
SSE COURSE UNTIL FADED JUST ABOVE HORIZON AT TIME 0816Z0

9. EVALUATION UNKNOWN

BT

NOTE: Adv cy to XOPX, NIN, DIA

17/0913Z

DEPARTMENT OF THE AIR FORCE

STAFF MESSAGE BRANCH
CLASSIFIED MESSAGE

AF IN : 41403 (17 Jul 63) X/

Pg 1 of 2

INFO : NIN-9, XOP-1, XOPK-4, CSAF-10SL3, ARMY-2, CMC-8, JCS-35, OSD-15,
NSA-7, DIA-25, DIA-CIIC-3 (103)

SMB A146

CZCHQA941ZCQJA116

00 RUEAHQ

DE RUHLKH 5

ZNR

O 170952ZFM 3

FM 326 AIR DIV KUNIA FACILITY HAWAII

TO RUHLKM/PACAF HICKAM AFB HAWAII

RUHPHH/COMHAWSEAFRON PEARL HARBOR HAWAII

INFO RUEAHQ/CSAF USAF WASH DC

RUECW/CNO WASH DC

RUECW/SECNAV WASH DC

RUWGALB/C INCNORAD ENT AFB COLO

RUHPA/CINCPAC CAMP H M SMITH HAWAII

RUHAFS/C INCUSARPAC FT SHAFTER HAWAII

RUHPB/CINCPACFLT PEARL HARBOR HAWUI

RUAUAZ/COMUSJAPAN FUCHU AS JAPAN

RUAMC/COMUSKOREA SEOUL KOREA

RUAGFL/COMUSTDC TAIPEI TAIWAN

RUCSBRB/CINCSAC OFFUTT AFB NEBR

RUHPD/COMASWFORPAC FORD ISLAND HAWAII

AF GRNC

BT

NCLAS HADOC-D 1263

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

NNNN

I N C O M I N G

AF IN : 41403 (17 Jul63)

Pg 2 of 2

A. JANAP 146D

1. CIRVIS REPORT
2. V43224
3. BRIGHT LIGHT SAME ~~SIZE~~ AS FIRST MAGNITUDE STAR
4. 35 38N 176 23W
5. 17/0808Z
6. ALTITUDE 45 DEGREES ABOVE ORIZON
7. SSE
8. OBJECT SIGHTED INITIALLY TO THE WEST. OBSERVED
TRAVELING ON SSE COURSE UNTIL FADED JUST ABOVE
HORIZON AT TIME 0816Z
9. EVALUATION NONE AT THIS TIME

B

17/0958Z JUL RUHLKH

NOTE: Xmitted to CIA SMB #431

EQUATOR S-N				SATELLITE 1960 IOTA 1 FOR OTHER LATITUDES							
TIME (UT)	LONG. (W)	LAT.		TIME CORR.	LONG. CORR.	HT. (MI)	DEAR. (N-E)	TIME CORR.	LONG. CORR.	HT. (MI)	DEAR. (N-E)
JULY 14, 1963											
0 47.7	232.01	47.5	26.4	-83.31	694	90.0	26.4	-83.35	694	90.0	
2 42.0	261.12	45.0	21.6	-61.07	673	72.2	31.2	-105.57	730	107.8	
4 37.8	290.22	40.0	17.9	-45.81	668	60.7	35.1	-120.80	769	119.3	
6 32.9	319.32	35.0	15.1	-36.15	672	54.0	38.0	-130.43	802	126.0	
8 27.5	348.43	30.0	12.7	-28.78	680	49.4	40.6	-137.76	833	130.6	
10 23.0	377.54	20.0	8.3	-17.41	706	43.7	45.3	-149.04	894	136.4	
12 18.0	406.64	0.	0.	0.	787	39.9	54.3	-166.27	1009	140.2	
14 13.1	435.75	-20.0	-8.6	17.32	899	43.6	-51.5	147.47	1108	136.5	
16 8.1	464.85	-30.0	-13.5	28.57	966	49.3	-46.2	136.33	1140	130.8	
18 3.1	493.96	-35.0	-16.2	35.86	1002	53.9	-43.3	129.09	1152	126.2	
19 59.2	143.06	-40.0	-19.5	45.41	1040	60.6	-39.9	119.58	1159	119.4	
21 53.2	162.17	-45.0	-23.9	60.50	1087	72.2	-35.3	104.53	1155	107.9	
23 48.3	221.27	-47.5	-29.5	82.51	1131	90.0	-29.5	82.55	1131	90.0	
JULY 15, 1963											
1 43.3	250.38	47.5	26.4	-83.30	687	90.0	26.4	-83.34	687	90.0	
3 38.4	279.48	45.0	21.7	-61.06	670	72.2	31.2	-105.56	720	107.8	
5 33.4	308.59	40.0	17.9	-45.79	669	60.7	35.1	-120.80	755	119.3	
7 28.5	337.69	35.0	15.1	-36.13	675	54.0	38.0	-130.43	787	126.0	
9 23.5	366.80	30.0	12.7	-28.76	686	49.4	40.5	-137.76	817	130.6	
11 18.6	395.90	20.0	8.3	-17.40	715	43.7	45.2	-149.05	877	136.3	
13 13.7	425.00	0.	0.	0.	802	39.9	54.2	-166.30	993	140.2	
15 8.7	454.11	-20.0	-8.7	17.31	917	43.6	-51.6	147.43	1094	136.5	
17 3.7	483.21	-30.0	-13.5	28.55	982	49.3	-46.4	136.28	1133	130.8	
19 58.8	142.32	-35.0	-16.4	35.81	1018	53.9	-43.5	129.04	1140	126.2	
21 53.8	161.42	-40.0	-19.6	45.37	1055	60.6	-40.1	119.53	1157	119.4	
23 48.9	220.53	-45.0	-24.0	60.46	1099	72.2	-35.5	104.48	1158	107.9	
		-47.5	-29.7	82.46	1135	90.0	-29.7	82.50	1139	90.0	
JULY 16, 1963											
0 43.7	233.01	47.5	26.5	-83.28	682	90.0	26.5	-83.32	682	90.0	
2 38.8	262.12	45.0	21.8	-61.05	665	72.2	31.3	-105.55	711	107.8	
4 33.8	291.22	40.0	18.0	-45.78	671	60.7	35.1	-120.79	744	119.3	
6 28.9	320.32	35.0	15.2	-36.12	680	54.0	38.0	-130.42	776	126.0	
8 24.0	349.43	30.0	12.8	-28.75	692	49.4	40.5	-137.76	803	130.6	
10 19.1	378.54	20.0	8.4	-17.39	725	43.7	45.2	-149.06	861	136.3	
12 14.2	407.64	0.	0.	0.	816	39.9	54.1	-166.32	977	140.2	
14 9.2	436.75	-20.0	-8.7	17.29	933	43.6	-51.8	147.40	1083	136.5	
16 4.3	465.85	-30.0	-13.7	28.52	998	49.3	-46.6	136.24	1125	130.8	
17 59.3	141.57	-35.0	-16.5	35.80	1032	53.9	-43.6	129.00	1142	126.2	
19 54.4	170.67	-40.0	-19.7	45.34	1068	60.6	-40.2	119.49	1155	119.4	
21 49.4	199.77	-45.0	-24.2	60.43	1110	72.2	-35.7	104.44	1160	107.9	
23 44.4	228.88	-47.5	-29.9	82.42	1146	90.0	-29.9	82.46	1146	90.0	
JULY 17, 1963											
1 39.5	257.98	47.5	26.5	-83.26	677	90.0	26.6	-83.30	677	90.0	
3 34.5	287.08	45.0	21.8	-61.02	665	72.2	31.3	-105.54	702	107.8	
5 29.6	316.19	40.0	18.1	-45.76	674	60.7	35.1	-120.78	732	119.3	
7 24.6	345.29	35.0	15.3	-36.10	685	54.0	38.0	-130.42	760	126.0	
9 19.7	374.39	30.0	12.8	-28.73	695	49.4	40.6	-137.76	789	130.6	
11 14.7	403.50	20.0	8.4	-17.38	736	43.7	45.2	-149.06	845	136.3	
13 9.7	432.60	0.	0.	0.	832	39.9	54.0	-166.34	960	140.2	
15 4.8	461.70	-20.0	-8.8	17.28	950	43.6	-51.9	147.36	1070	136.5	
16 59.8	130.81	-30.0	-13.8	28.50	1014	49.3	-46.7	136.20	1116	130.7	
18 54.9	159.91	-35.0	-16.8	35.77	1047	53.9	-43.8	128.96	1135	126.2	
20 49.9	189.01	-40.0	-19.8	45.31	1082	60.6	-40.4	119.45	1151	119.4	
22 44.9	218.12	-45.0	-24.3	60.39	1120	72.2	-35.8	104.40	1160	107.9	
		-47.5	-30.0	82.38	1151	90.0	-30.0	82.42	1151	90.0	

MODIFIED ORBITAL ELEMENTS FOR EARTH SATELLITE 1960 IOTA 1

REFERENCE TIME 1963 Y 7 M 6 D 1 H 11.12 M UT
 INCLINATION 47.28 DEG.
 ASCENDING NODE (LONG.) 203.62 DEG. WEST
 PRIME SKEW INTERVAL ONE DAY -16.95 MIN.
 ARGUMENT OF PERIGEE 32.13 DEG.
 RATE OF CHANGE 0.30725 DEG. PER PERIOD
 ANCHALISTIC PERIOD 115.158 MIN.
 RATE OF CHANGE -0.00014 MIN. PER PERIOD
 ECCENTRICITY 0.05011
 RADIUS OF PERIGEE 4627.5 MILES
 RADIUS OF APOGEE 5115.7 MILES
 RATE OF CHANGE -0.10 MILES PER DAY
 ASCENDING NODE (R.A.) 97.29 DEG.
 RATE OF CHANGE -3.30358 DEG. PER DAY
 LATITUDE OF PERIGEE 23.00 DEG.
 READ-IN EXPECTED

EQUATOR S-N				SATELLITE 1960 IOTA 1 FOR OTHER LATITUDES							
TIME (UT)	LONG. (W)	LAT.		TIME CORR.	LONG. CORR.	HT. (MI)	DEAR. (N-E)	TIME CORR.	LONG. CORR.	HT. (MI)	DEAR. (N-E)
JULY 18, 1963											
0 40.0	247.22	47.5	26.6	-83.24	673	90.0	26.6	-83.28	673	90.0	
2 35.0	276.32	45.0	21.9	-61.00	669	72.2	31.4	-105.52	694	107.8	
4 30.1	305.42	40.0	18.2	-45.74	678	60.7	35.2	-120.77	722	119.3	
6 25.1	334.53	35.0	15.4	-36.08	691	54.0	38.1	-130.41	748	126.0	
8 20.2	363.63	30.0	12.9	-28.71	707	49.4	40.6	-137.75	775	130.6	
10 15.2	392.73	20.0	8.5	-17.37	747	43.7	45.2	-149.06	830	136.3	
12 10.2	421.84	0.	0.	0.	847	39.9	53.9	-166.35	944	140.2	
14 5.3	450.94	-20.0	-8.9	17.26	966	43.6	-52.0	147.34	1057	136.4	
16 0.3	480.04	-30.0	-13.8	28.48	1029	49.3	-46.9	136.17	1107	130.7	
17 59.4	149.14	-35.0	-16.7	35.75	1061	53.9	-43.9	128.92	1120	126.2	
19 50.4	178.25	-40.0	-20.0	45.28	1094	60.6	-40.6	119.41	1147	119.4	
21 45.4	207.35	-45.0	-24.4	60.35	1129	72.1	-36.0	104.36	1160	107.9	
23 40.5	236.45	-47.5	-30.2	82.34	1156	90.0	-30.2	82.38	1156	90.0	
JULY 19, 1963											
1 35.5	265.55	47.5	26.7	-83.22	670	90.0	26.7	-83.26	670	90.0	
3 30.5	294.66	45.0	22.0	-60.98	671	72.2	31.5	-105.50	687	107.8	
5 25.6	323.76	40.0	18.2	-45.71	683	60.7	35.3	-120.75	712	119.3	
7 20.6	352.86	35.0	15.4	-36.06	699	54.0	38.1	-130.39	736	126.0	
9 15.7	381.96	30.0	13.0	-28.70	717	49.4	40.6	-137.74	761	130.6	
11 10.7	411.06	20.0	8.5	-17.35	760	43.7	45.2	-149.06	814	136.3	
13 5.7	440.17	0.	0.	0.	863	39.9	53.9	-166.37	927	140.2	
15 0.8	469.27	-20.0	-8.9	17.25	982	43.6	-52.1	147.31	1043	136.4	
16 55.8	138.37	-30.0	-13.9	28.45	1044	49.3	-47.0	136.13	1095	130.7	
18 50.9	167.47	-35.0	-16.8	35.72	1075	53.9	-44.1	128.88	1119	126.2	
20 45.9	196.57	-40.0	-20.1	45.25	1105	60.6	-40.7	119.37	1140	119.4	
22 40.9	225.68	-45.0	-24.6	60.32	1137	72.1	-36.2	104.31	1158	107.9	
		-47.5	-30.4	82.36	1159	90.0	-30.4	82.34	1159	90.0	
JULY 20, 1963											
0 36.0	254.78	47.5	26.8	-83.19	669	90.0	26.8	-83.24	669	90.0	
2 31.0	283.88	45.0	22.1	-60.95	673	72.2	31.6	-105.47	691	107.8	
4 26.0	312.98	40.0	18.3	-45.69	689	60.7	35.3	-120.73	703	119.3	
6 21.1	342.08	35.0	15.5	-36.04	707	54.0	38.2	-130.37	729	126.0	
8 16.1	371.18	30.0	13.1	-28.68	727	49.4	40.7	-137.73	749	130.6	
10 11.1	400.29	20.0	8.6	-17.34	772	43.7	45.2	-149.05	799	136.3	
12 6.2	429.39	0.	0.	0.	879	39.9	53.9	-166.37	911	140.1	
14 1.2	458.49	-20.0	-9.0	17.23	998	43.6	-52.2	147.29	1029	136.4	
15 56.2	127.59	-30.0	-14.0	28.43	1057	49.3	-47.1	136.11	1084	130.7	
17 51.3	156.69	-35.0	-16.9	35.69	1087	53.9	-44.2	128.85	1110	126.1	
19 46.3	185.79	-40.0	-20.2	45.22	1115	60.6	-40.8	119.34	1133	119.4	
21 41.3	214.89	-45.0	-24.7	60.28	1144	72.1	-36.3	104.28	1154	107.9	
23 36.4	244.00	-47.5	-30.5	82.26	1161	90.0	-30.5	82.31	1161	90.0	